CALIFORNIA AGRICULTURAL LAND EVALUATION AND SITE ASSESSMENT MODEL ANALYSIS FOR THE QUARRY CREEK PROJECT

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March 20, 2012

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EXECUTIVE SUMMARY

This document provides the results a California Land Evaluation and Site Assessment (LESA) determination performed for the Quarry Creek redevelopment project. The LESA process provides an objective methodology for determining the relative value of agricultural land resources and the degree of California Environmental Quality Act (CEQA) significance associated with development of the land. The evaluation considers both agricultural suitability and the socio-economic attributes that contribute to agricultural values. Agricultural suitability is based on the quality and quantity of soil found on the site. The socio-economic factors included in the evaluation are project size, water resource availability, extant of agricultural lands surrounding the project and the extent of any protected resources lands that surround the project.

The Quarry Creek project area encompasses approximately 155 acres. Approximately 52 acres of the project site have undergone many years of rock mining with associated crushing and screening activities to produce commercial rock aggregate products. Waste products from mining activities were subsequently placed in canyon or pit areas as fill to reclaim quarry excavations. Reclamation grading of the previously mined area commenced in July 2011 and is expected to be completed in early 2012. As a result of mining and reclamation activities these 52 acres are covered in a variety of compacted and uncompacted fills from various sources with a small area of unmapped topsoil present (Geocon 2011). The remaining 103 acres of the project site support a variety of native and non-native habitats that include; Baccharis scrub, riparian woodland, Diegan coastal sage scrub, southern mixed chaparral, eucalyptus woodland, non-native vegetation and disturbed habitat (Helix 2011).

Seven surficial soil deposits and four geologic formations were encountered and/or mapped on the property. Surficial soil deposits include undocumented fill, compacted fill, previously placed fill. topsoil (unmapped), alluvium, and colluvium. Formational units include Quaternary-age Terrace Deposits, Tertiary-age Volcanic Rock, Santiago Formation, and Jurassic-age Salto Intrusive Rock (Geocon 2011).

The California LESA Model is based on both Land Evaluation factors and Site Assessment factors that are separately assessed and rated. With regard to Land Evaluation, there are two possible Land Evaluation factors; the *Land Capability Classification Rating* and the *Storie Index Rating*. With regard to Site Assessment, the LESA Model also includes four Site Assessment factors that are separately rated:

1. The Project Size Rating
2. The Water Resources Availability Rating
3. The Surrounding Agricultural Land Rating
4. The Surrounding Protected Resource Land Rating

The LESA Model analysis is weighted so that 50 percent of the total LESA score of a given project is derived from the Land Evaluation factors and 50 percent is based on the Site Assessment factors. The results of the LESA Model analysis are presented in the table on the following page.

Final LESA Model Score for Quarry Creek

LESA Evaluation Factor	Weighting Factor	X	Factor Rating	=	Weighted Factor Rating*
LAND EVALUATION FACTORS					
Land Capability Classification (LCC)	0.50	X	14	=	7.0
Storie Index**	-		-	=	-
SITE ASSESSMENT FACTORS					
Project Size	0.15	X	50	=	7.5
Water Resource Availability	0.15	X	80	=	12.0
Surrounding Agricultural Lands	0.15	X	0	=	0
Surrounding Protected Resource Lands	0.05	X	10	=	0.5
TOTAL LESA SCORE	1.0				27.0

*From LESA Manual.

**Storie Index data not available for fills from unknown sources. LCC factor was therefore weighted 0.50 rather than 0.25 to offset, as required in LESA Manual.

The LESA Instruction Manual provides thresholds for determining the significance of developing the Quarry Creek site in terms of agricultural resources under CEQA as shown on the table below.

Final LESA Model Scoring Thresholds

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to59 Points	Considered Significant only if LE AND SA subscores are much greater than or equal to 20 points.
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

Based on the results of the LESA Model analysis, development of the Quarry Creek project does not represent a significant impact to agricultural resources.

1.0 INTRODUCTION

The following document provides the results of a Land Evaluation and Site Assessment (LESA) determination performed for the Quarry Creek redevelopment project. The LESA process was formalized in 1997 with the intent of providing an objective measure of the relative value of agricultural land resources. The evaluation considers both factors that consider agricultural suitability and the socio-economic attributes that contribute to agricultural values. Agricultural suitability is based on the quality and quantity of soil found on the site. The socio-economic factors included in the evaluation are project size, water resource availability, extant of agricultural lands surrounding the project and the extent of any protected resources lands that surround the project. These six factors are weighted relative to each other and combined to provide a single numerical value which serves as a measure of overall agricultural suitability.

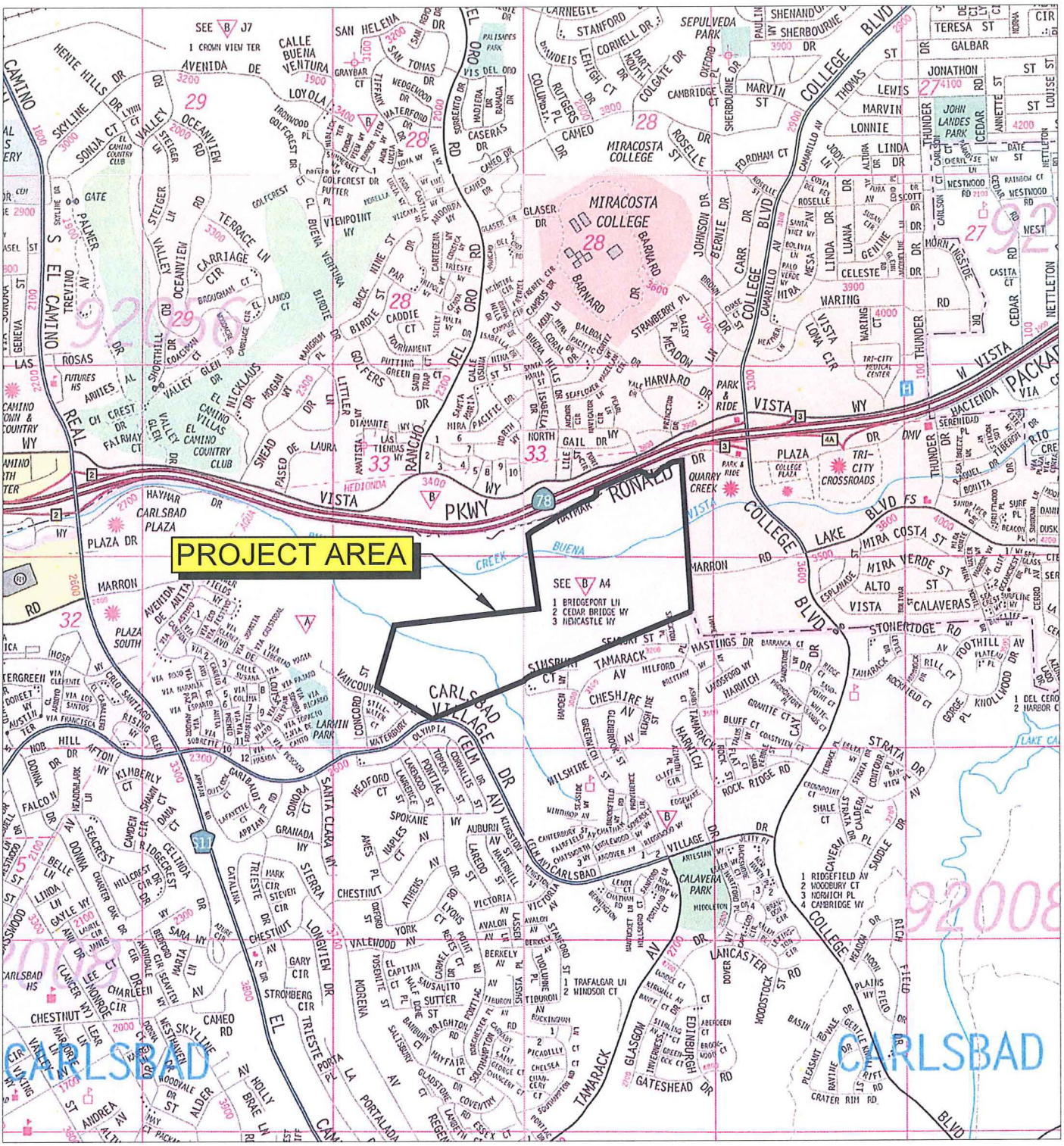
2.0 SITE AND PROJECT DESCRIPTION

The Quarry Creek project area encompasses approximately 156 acres. The location of the project and the boundaries of the project are shown in *Figures 1 and 2*. Approximately 52 acres of the project site have undergone many years of rock mining with associated crushing and screening activities to produce commercial rock aggregate products. The majority of the mining activity occurred in the eastern and central portions of the site. A former concrete batch plant and base-coarse crushing and screening plant operated by Hanson Aggregates occupied the central portion of the property Other portions of the property were previously used for storage purposes, which include stockpiles of concrete and asphalt rubble, bioremediation stockpiles, and other materials. As a result of mining and reclamation activities this portion of the site is covered in a variety of compacted and uncompacted fills from various sources with a small area of unmapped topsoil present (Geocon 2011).

The remaining 104 acres of the project site support a variety of native and non-native habitats that include; Baccharis scrub, riparian woodland, Diegan coastal sage scrub, southern mixed chaparral, eucalyptus woodland, non-native vegetation and disturbed habitat (Helix 2011). The majority of these habitat areas are located on the western and southern portions of the site.

Reclamation grading of the previously mined area commenced in July 2011 and is expected to be completed in early 2012. During reclamation grading, undocumented fills are being removed and re-compacted. Alluvial soils within the drainage area is being removed to within 3 feet of the current groundwater elevation and re-compacted. Drop structures, levees and rock revetment slopes are being constructed along and in Buena Vista Creek drainage. As of early 2012, reclamation grading will have resulted in removal of undocumented till and replacement with compacted fill on the north side of Buena Vista Creek. Reclamation grading will result in large sheet graded pads on the eastern half of the property on both the north and south sides of Buena Vista Creek.

Topographically the property slopes northward, southward, and westward, following the east-west natural drainage of Buena Vista Creek Valley and its tributaries. The original valley-slope topography has been lowered by quarry operations to create moderately sloping surfaces in most of the planned reclamation area. However, mining of rock in the northeast quadrant has created near-vertical rock slopes. The cut has exposed fractured rock, which is very strong and considered stable in its temporary steep condition. Slopes on the south side of the valley have been graded to permanent 2.1 cut slopes with benches, bench-drains and brow-ditches.



NORTH

0 1000 2000 4000 FT

SCALE: - 1" = 2000'

Figure 1

Quarry Creek - Vicinity Map

Carlsbad, California

January 9, 2012

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ENVIRONMENTAL MITIGATION

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Figure 2

Quarry Creek - Site Map

Carlsbad, California

NORTH

0 300 600 1200 FT

SCALE: - 1" = 600'

January 9, 2012

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On the north side of the site, reclamation grading has resulted in 2:1 cut slopes. Elevations in the eastern half of the property vary from approximately 80 feet Mean Sea Level (MSL) to above 300 feet MSL in open-space areas. Upon completion of the reclamation grading, elevations will vary from approximately 100 to 170 feet MSL. On the western ungraded portion of the site, existing elevations vary from approximately 80 feet MSL to 160 feet MSL.

2.1 Soil and Geologic Conditions

Seven surficial soil deposits and four geologic formations were encountered and/or mapped on the property. Surficial soil deposits include undocumented fill, compacted fill, previously placed fill. topsoil (unmapped), alluvium, and colluvium. Formational units include Quaternary-age Terrace Deposits, Tertiary-age Volcanic Rock, Santiago Formation, and Jurassic-age Salto Intrusive Rock. *Figure 3* shows the mapped limits of the geologic units on the site. The paragraphs below provide a brief description of the surficial soil types present as reported in the Soil and Geologic Reconnaissance Report prepared for the property (Geocon 2011).

Compacted Fill (Qcf) (15.48 acres)

Compacted fill placed during reclamation grading exists across the northeast portion of the property. Observation and compaction testing of the fill has been performed by Geocon Incorporated. The fill is predominately comprised of silty to clayey sand with varying amounts of rock fragments, soil rock fills, and windrows of oversize rock and concrete.

Undocumented Fill (Qudf) (27.52 acres)

Undocumented fill exists across the majority of the south-central and southeastern portions of the property. The undocumented fill is typically within previously mined areas. Estimated maximum thickness could exceed 25 feet, especially beneath stockpile areas. These fills are the result of waste product generated from mining activities being stockpiled and/or spread out across the property. The undocumented fill is comprised of loose, dry to wet, very porous, sandy, coarse gravel with oversize rock fragments. The undocumented fill is unsuitable in its present condition, and will require removal and re-compaction to support additional fill or structural improvements. Oversize materials encountered during remedial grading may require breaking down and/or special placement procedures. In the northeast portion of the property, a limited amount of undocumented fill was left in-place due to the presence of groundwater during reclamation grading.

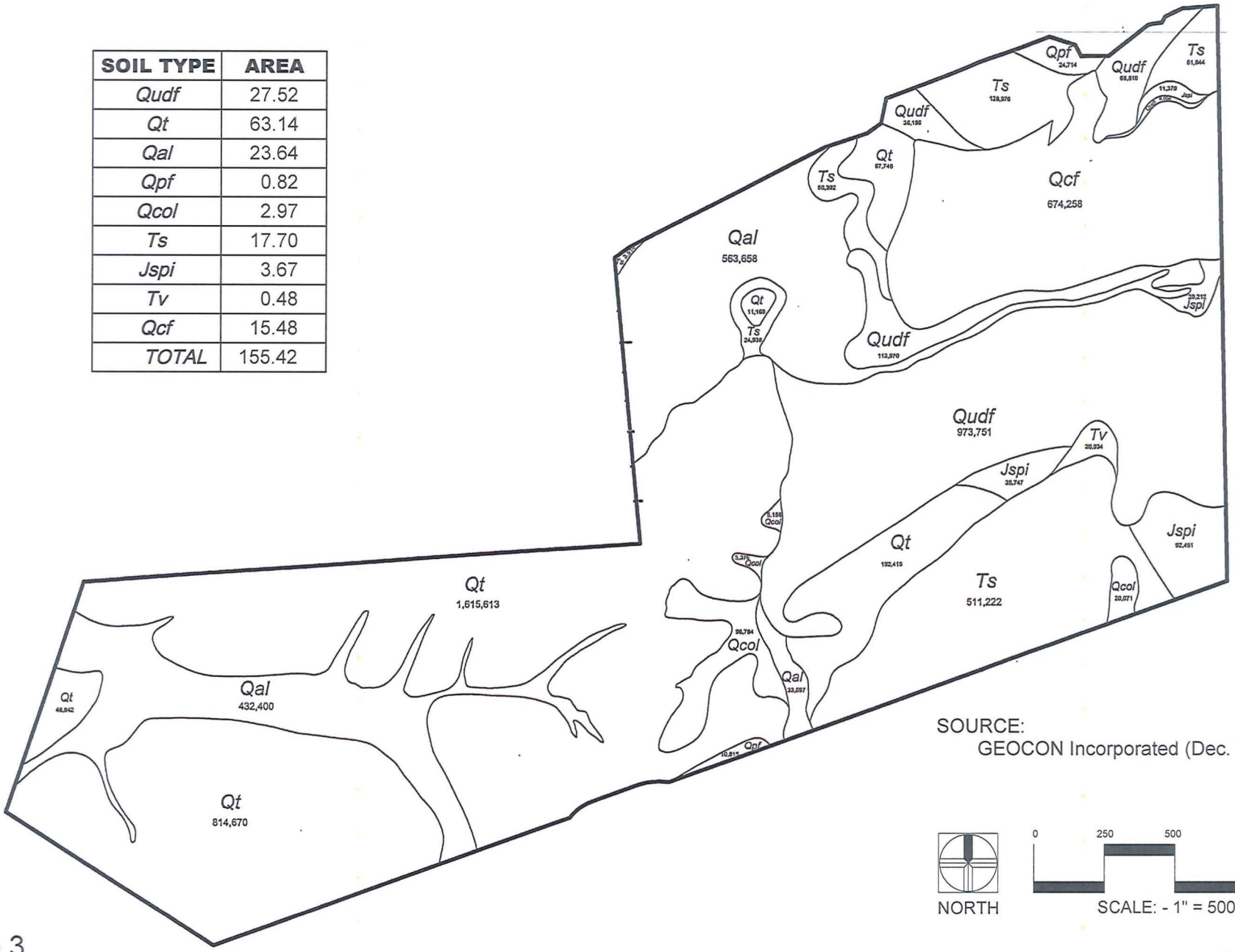
Previously Placed Fill (Qpf) (0.82 acres)

The approximate area of previously placed fill associated with residential developments along the southern boundary, near Haymar Road and Highway 78 was identified along the northern property boundary and is shown on Figure 3. Previously placed fill associated with the development of the eastern quarry (Quarry Creek Shopping Center) abuts the southeastern property line.

Topsoil Unmapped (Ts) (17.70 acres)

Portions of the site are irregularly blanketed by I to 3 feet of topsoil consisting of loose, porous. dark brown, silty to clayey, fine sand. Topsoil is compressible in its present condition, and will require removal and re-compaction within areas of future planned development.

SOIL TYPE	AREA
Qudf	27.52
Qt	63.14
Qal	23.64
Qpf	0.82
Qcol	2.97
Ts	17.70
Jspi	3.67
Tv	0.48
Qcf	15.48
TOTAL	155.42



SOURCE:
GEOCON Incorporated (Dec. 23, 2011)

NORTH

0 250 500 1000 FT

SCALE: - 1" = 500'

Figure 3

Quarry Creek - Soils Map

Carlsbad, California

January 9, 2012

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Alluvium (Qal) (23.64 acres)

Alluvial deposits are present within the major east-west drainage of Buena Vista Creek, as well as in the northeastern and southwestern tributary canyons that converge with Buena Vista Creek in the central portion of the site. The alluvial soils generally consist of loose, porous dark gray to olive brown, very clayey, fine to medium sand, and clayey sand and silt. Areas of deepest alluvium are located in the central portion of the site adjacent to the original channel of Buena Vista Creek and its tributaries.

Colluvium (Qcol) (2.97 acres)

Colluvial deposits were encountered in the southwest portion of the site mostly along northward-draining tributary canyons. Previous exploratory trenches encountered 4 feet to 6 feet of loose dark brown, very clayey to silty, fine sand. Due to the loose unconsolidated condition of the colluvium, removal and re-compaction will be required to provide suitable support for placement of compacted fill or structural improvements.

Terrace Deposits (Qt) (63.14 acres)

Extensive and thick river terrace deposits consisting of medium-dense to dense, light reddish-brown to olive-brown, gravelly, silty to clayey, medium to coarse sand are present in the northwest and southwest portions of the site. Except near depositional contacts (or unconformities) with older formations, this unit is typically massive to horizontally bedded, relatively dense and exhibits low compressibility characteristics. Terrace Deposits are most prevalent in the southwestern portions of the site.

Tertiary Volcanics (Tv) (0.48 acres)

Tertiary-age volcanic rocks are present in a limited lens-shape area exposed in the southeast portion of the site in the existing 2:1 cut slope between approximate elevations 120 to 140 feet MSL. It consists of deeply weathered, massive light reddish-brown, moderately strong, volcanic tuff. This unit exhibits medium-dense to dense soil with little indication of slope erosion.

Salto Intrusive (Jspi) (3.67 Acres)

The Jurassic-aged Salto Intrusive consists of a steeply jointed, dark gray, very strong tonalite to gabbro rock considered to be older than the Peninsular Range Batholith and more closely related to the formation of the Santiago Peak Volcanics (Larsen, 1948). This granitoid bedrock unit is present in the northeast and southeast corners of the property and is the predominant geologic unit that has been mined for aggregate on the property. Typically, this bedrock unit outcrops along the eastern or southeastern boundary of the site, or is covered by fill in the central portions of the site. Exploratory excavations by the geologist encountered mostly buried intrusive rock that exhibited a variable weathering pattern ranging from intensely weathered and fractured material near contacts with the overlying sedimentary rocks within quarried areas.

2.2 Groundwater

Groundwater has been encountered in the major lower elevation drainage areas of Buena Vista Creek and its tributaries at elevations between 70 to 80 feet MSL. Depth of groundwater is subject to fluctuation from natural seasonal variations.

3.0 CALIFORNIA LAND EVALUATION FACTORS

The California LESA Model is based on two Land Evaluation factors that are separately assessed. The two factors are the Land Capability Classification Rating and the Storie Index Rating.

3.1 Land Capability Classification Rating

The USDA Land Capability Classification (LCC). The LCC indicates the suitability of soils for most kinds of crops. Groupings are made according to the limitations of the soils when used to grow crops and the risk of damage to soils when they are used in agriculture. Soils are rated from Class I to Class VIII, with soils having the fewest limitations receive the highest rating (Class I). Specific subclasses are also utilized to further characterize soils. An expanded explanation of the LCC is included in most soil surveys (LESA Manual 1997). *Table 1* below provides a summary of the Land Compatibility Classification data for each soil type on site. The LESA analysis indicates an overall Land Compatibility Score of 14 for the property.

Table 1: Land Capability Classification Index Score for Quarry Creek

Soil Type	Acres	Proportion of Project Area	LCC	LCC Rating*	LCC Score*
Qudf	27.52	0.15	VIII	0	0
Qt	63.14	0.35	VIIIe	0	0
Qal	23.64	0.13	IIs	80	10.4
Qpf	0.82	0.006	VIII	0	0
Qcol	2.97	0.02	IIs	80	1.6
Ts	17.70	0.10	VI	20	2.0
Jspi	3.67	0.15	VIIIs	0	0
Tv	0.48	0.004	VIIIs	0	0
Qcf	15.48	0.09	VIII	0	0
Totals	155.42	1.0			**14**

*From LESA Manual.

3.2 Storie Index Rating

The Storie Index provides a numeric rating (based upon a 100 point scale) of the relative degree of suitability or value of a given soil for intensive agriculture. The rating is based upon soil characteristics. Four factors that represent the inherent characteristics and qualities of the soil are considered in the index rating. The factors are: profile characteristics, texture of the surface layer, slope, and other factors (e.g., drainage, salinity) (LESA Manual 1997).

Ordinarily, Storie Index data would be considered as the second of the Land Evaluation Criteria. However, Storie Index data are not readily available for the non-native fills that overlie much of the subject property. The LESA Instruction Manual allows for the Land Evaluation to be based on LCC score solely when Storie Index data is not available due to time or resource constraints, such as the situation of the Compacted Fill, the Undocumented Fill, and the Unmapped Topsoil non-native fills which cover much of the site. Consistent with the allowances in the LESA Manual, in the absence of Storie Index data the LCC score will represent 50 rather than 25 percent of the overall LESA factor weighing per the requirements of the LESA method (LESA Manual 1997).

4.0 CALIFORNIA SITE ASSESSMENT FACTORS

The California LESA Model also includes four Site Assessment factors that are separately rated:

1. The Project Size Rating
2. The Water Resources Availability Rating
3. The Surrounding Agricultural Land Rating
4. The Surrounding Protected Resource Land Rating

4.1 Project Size Rating

The inclusion of the measure of a project's size in the California Agricultural LESA Models is in recognition of the role that farm size plays in the viability of commercial agricultural operations. In general, larger farming operations can provide greater flexibility in farm management and marketing decisions. Certain economies of scale for equipment and infrastructure can also be more favorable for larger operations. In addition, larger operations tend to have greater impacts upon the local economy through direct employment, as well as impacts upon support industries (LESA Manual 1997).

In terms of agricultural productivity, the size of a farming operation can be considered not just from its total acreage, but the acreage of different quality lands that comprise the operation. Lands with higher quality soils lend themselves to greater management and cropping flexibility and have the potential to provide a greater economic return per unit acre. For a given project, instead of relying upon a single acreage figure in the Project Size rating, the project is divided into three acreage groupings based upon the Land Capability Classification ratings that were previously determined in the Land Evaluation analysis. Under the Project Size rating, relatively fewer acres of high quality soils are required to achieve a maximum Project Size score. Alternatively, a maximum score on lesser quality soils can also be derived provided there is a sufficiently large acreage present (LESA Manual1997).

The Project Size Rating relies upon acreage figures for each soil type on the project site as presented in *Table 2*.

Table 2: Project Size Rating

A	B	C	D	Soils	Soils	Soils
Soil Type	**Acres**	**Proportion of Project Area**	**LCC**	**Class LCC I or II**	**Class LCC III**	**Class LCC IV - VIII**
Qudf	27.52	0.15	VIII			27.52
Qt	63.14	0.35	VIIIe			63.14
Qal	23.64	0.13	IIs	23.64		
Qpf	0.82	0.006	VIII			0.82
Qcol	2.97	0.02	IIs	2.97		
Ts	17.70	0.10	VI			17.70
Jspi	3.67	0.15	VIIIs			3.67
Tv	0.48	0.004	VIIIs			0.48
Qcf	15.48	0.09	VIII			15.48
Totals	155.42	1.0		26.61		128.81
		Project Size Score*		**50**		**40**
		Highest Project Size Score		**50***		

* A quantitative index value assigned by the LESA Manual based on soil types (quality) and acreage (quantity) of each soil type..

The Project Size rating is based upon the area of each soil type on the property. The Project Size Rating factor favors properties with large areas of high quality (Class I and II) soils. *Table 2* above identifies the acreage of each LCC soil type on the property, categorized per the requirements of the LESA manual which assigns a point value for each category. The LESA method specifies that the Project Size rating is based on the highest score in any of the three categories shown on *Table 2*.

4.2 Water Resource Availability Rating

The Water Resources Availability Rating is based upon identifying the various water sources that may supply a given property, and then determining whether different restrictions in supply are likely to take place in years that are characterized as being periods of drought and non-drought.

The Quarry Creek Project area potentially has three sources of water supply. The area is serviced by the Carlsbad Municipal Water District as its primary water distributor. In addition, Buena Vista Creek, a perennial riparian waterway flows naturally through the project area. Shallow subsurface groundwater represents a third potential water source. It is unlikely that the riparian water that flows through the site could be withdrawn for agricultural uses as there is no prior claim to the water and currently Buena Vista Creek is considered sensitive riparian habitat under the regulations of the Carlsbad Habitat Management Plan and applicable state and federal natural resource regulations. A new effort to withdraw groundwater for agricultural purposes could result in depression of the water table which could adversely affect the sensitive riparian habitat vegetation above, making it unlikely that groundwater extraction would be permitted.

There is no recent history of agriculture on the quarry or non-quarry portion of the site and thus no record of irrigation water use. Historically, the non-quarry portion of the property may have been used livestock pasture with Buena Vista Creek serving as a water supply. Under a hypothetical agricultural scenario it could be assumed that all three sources of water would be consistently merged to serve the crops needs and thus the property cannot realistically be subdivided into portions that would use a specific source of irrigation water. Thus *Table 3* below considers the subject property as a single unit that would be supplied by a mix of municipal water and groundwater.

In an effort to evaluate the Water Resource Availability criteria it is necessary to consider the viability of the hypothetical agricultural operation under both drought and non-drought conditions. Under non-drought conditions the property would most likely be irrigated by a combination of groundwater and municipal water. Use of riparian water without a prior demonstrated license to use would clash with local habitat management and resource protection plans and state and federal regulations and most likely would not be allowed. Therefore *Table 3* below is based on the following assumptions:

1.	Is non-drought irrigated production feasible?	YES
2.	Are there non-drought physical restrictions?	NO
3.	Are there non-drought economic restrictions?	NO
4.	Is drought year irrigated production feasible?	YES
5.	Are there drought year physical restrictions?	YES
6.	Are there drought year economic restraints?	YES

Table 3: Water Resource Availability

A	B	C	D	E
Project Portion	Water Source	Proportion of Project Area	Water Availability Score*	Weighted Availability Score*
1	Municipal/Groundwater	1.0	80	**80**

*From LESA Manual

4.3 Surrounding Agricultural Land Rating

Determination of the surrounding agricultural land use rating is based upon the identification of a project's Zone of Influence (ZOI) which is defined as that land near a given project, both directly adjoining and within a defined distance away (0.25 miles), that is likely to influence, and be influenced by, the agricultural land use of the subject project site (LESA Manual 1997).

The Surrounding Agricultural Land Rating is designed to provide a measurement of the level of agricultural land use for lands in close proximity to a subject project. The California Agricultural LESA Model rates the potential significance of the conversion of an agricultural parcel that has a large proportion of surrounding land in agricultural production more highly than one that has a relatively small percentage of surrounding land in agricultural production. Per the requirements of the LESA Manual, the definition the Zone of Influence is determined by drawing the smallest possible rectangle around the perimeter of the subject property and then extending that rectangle out for a distance of 0.25 miles. For the Quarry Creek project this represents an area of 965.92 acres. The LESA method specifies that the area of the project itself (155.42) acres is deducted from the total area, leaving a LESA ZOI of 810.5 acres as shown on *Figure 4*.

Figure 4 depicts the 44 agricultural or open space parcels contained with in the Quarry Creek ZOI. Four of these parcels support agricultural activities. The acreage for each parcel is given on *Table 4* below.

Table 4: Area of Surrounding Agricultural Within the LESA Zone of Influence for Quarry Creek

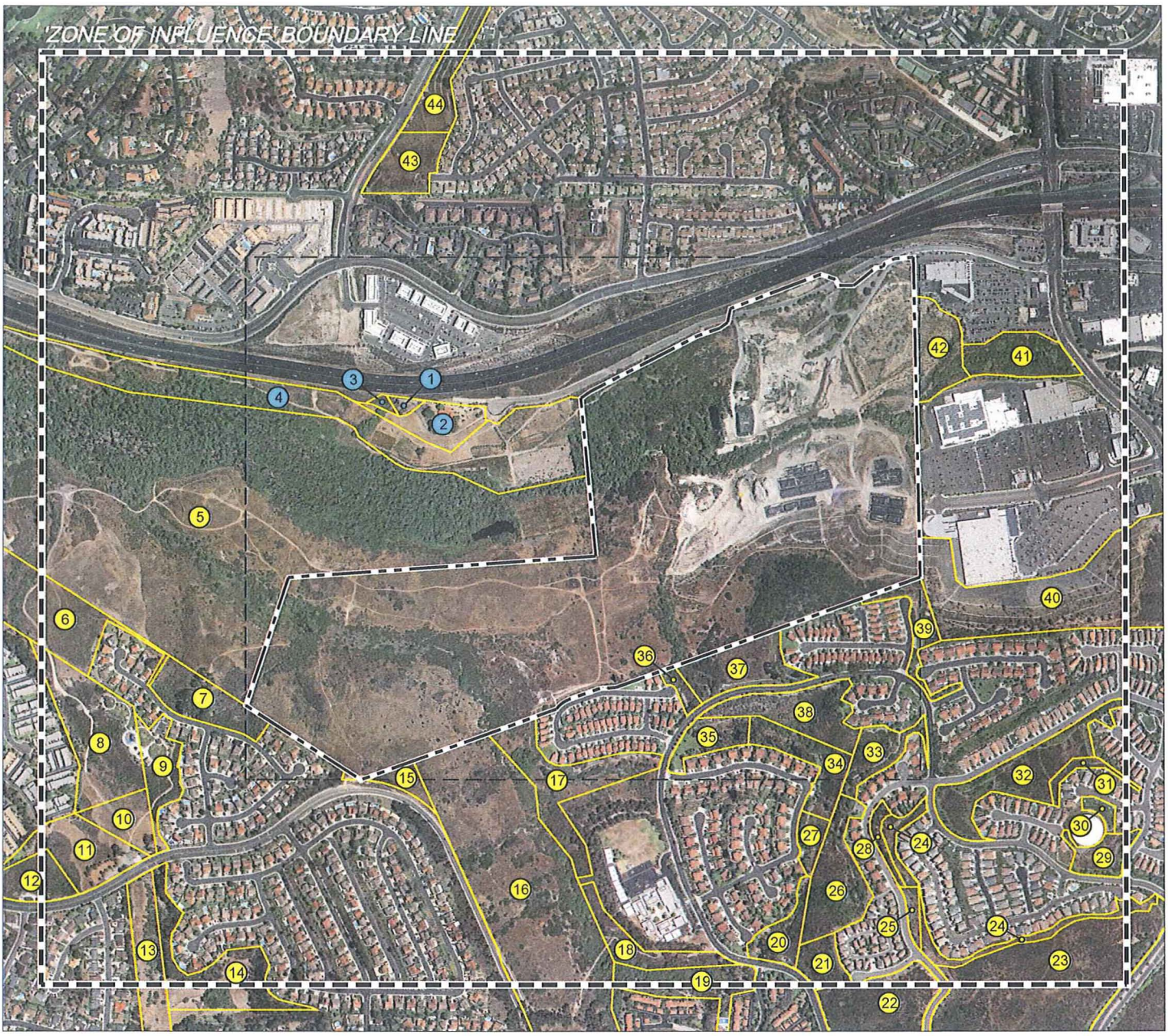
Parcel Number from Figure 4	Acreage	Use
1	0.41	Agriculture
2	3.06	Agriculture
3	0.26	Agriculture
4	21.23	Agriculture
Total Agriculture Acres	**24.96**	

The LESA score for agricultural lands surrounding the subject property is based on the percentage of agricultural lands with the LESA. The Agricultural Land score for this project is shown on *Table 5* below.

Table 5: Percentage of Surrounding Agricultural Lands in the LESA Zone of Influence for Quarry Creek

Land Description	Acreage
LESA Zone of Influence	810.5
Total Agriculture in the ZOI	24.95
Percent of Project's ZOI in Agricultural Use	3.1%
Agricultural Land Score	0*

*From LESA Manual



LEGEND

- 'ZONE OF INFLUENCE' BOUNDARY LINE
- QUARRY CREEK PROPERTY LINE
- OPEN SPACE/ AGRICULTURE PARCEL LINE
- (7) DESIGNATED OPEN SPACE PARCEL
- (2) AGRICULTURE PARCEL

NORTH

0 500 1000 2000 FT

SCALE: - 1" = 1000'

Figure 4

Quarry Creek
LESA Zone of Influence Study

Carlsbad, California

January 9, 2012

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4.4 Surrounding Protected Resource Land Rating

The Surrounding Protected Resource Land Rating is essentially an extension of the Surrounding Agricultural Land Rating, and is scored in a similar manner. Protected resource lands are those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following:

1. Williamson Act contracted lands
2. Publicly owned lands maintained as park, forest, or watershed resources
3. Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Most of the Protected Resource Land within the Zone of Influence is protected under the Carlsbad Habitat Management Plan as "Hardline" open space. Hardline open space is made up of protected and conserved lands which contain sensitive habitat such as riparian wetlands or habitats containing endangered species, which are protected through the California Environmental Quality Act process. They may also include mitigation or restored habitat lands exacted through the development process. The Protected Resource Lands in the Zone of Influence and the acreage of each parcel are shown on *Table 6*.

Table 6: Area of Surrounding Protected Resource Lands within the LESA Zone of Influence for Quarry Creek

Parcel Number from Figure 4	Acreage	Use		Parcel Number From Figure 4	Acreage	Use
5	112.59	POS		25	0.71	POS
6	10.79	POS		26	4.70	POS
7	4.20	POS		27	1.20	POS
8	7.98	POS		28	0.65	POS
9	3.91	POS		29	1.79	POS
10	2.50	POS		30	0.56	POS
11	4.25	POS		31	0.80	POS
12	3.56	POS		32	6.76	POS
13	5.92	POS		33	2.69	POS
14	7.39	POS		34	3.11	POS
15	1.23	POS		35	2.49	POS
16	60.89	POS		36	0.89	POS
17	8.30	POS		37	4.52	POS
18	3.16	POS		38	5.51	POS
19	4.44	POS		39	1.54	POS
20	2.80	POS		40	17.73	POS
21	3.01	POS		41	3.33	POS
22	9.54	POS		42	4.10	POS
23	19.59	POS		43	3.56	POS
24	3.44	POS		44	8.76	POS
				Total POS Acres	354.89	

*POS = Protected Open Space

The LESA score for protected lands within the Zone of Influence is based on the percentage of protected lands within the LESA. The Agricultural Land score for this project is shown on *Table 7* below.

Table 7: Percentage of Surrounding Protected Resource Lands in the LESA Zone of Influence for Quarry Creek

Land Description	Acreage
LESA Zone of Influence	810.5
Total Protected Open Space in the ZOI	354.89
Percent of Project's ZOI in POS	44%
Agricultural Land Score	**10***

*From LESA Manual

5.0 FINAL LESA SCORING

The California LESA Model is weighted so that 50 percent of the total LESA score of a given project is derived from the two Land Evaluation Factors (Land Capability Classification and Storie Index Rating)., each weighted at 25 percent. However Storie Index data were not available for the non-native fills from unknown sources that are found on the subject property. Therefore the Land Capability Classification factor will count for 50 percent of this evaluation rather than 25 percent. The scores and weighting in each category are shown on *Table 8* below.

Table 8: Weighting Factors and Final LESA Score for Quarry Creek

LESA Evaluation Factor	Weighting Factor	X	Factor Rating	=	Weighted Factor Rating*
Land Capability Classification	0.50	X	14	=	7.0
Storie Index**	-		-	=	
Project Size	0.15	X	50	=	7.5
Water Resource Availability	0.15	X	80	=	12.0
Surrounding Agricultural Lands	0.15	X	0	=	0
Surrounding Protected Resource Lands	0.05	X	10	=	0.5
TOTAL LESA SCORE	**1.0**				**27.0**

*From LESA Manual

**Storie Index data not available for fills from unknown sources. LCC factor was therefore weighted 0.50 rather than 0.25 to offset.

Table 9: Final LESA Model Scoring Thresholds for Quarry Creek

Total LESA Score	Scoring Decision
0 to 39 Points	Not Considered Significant
40 to59 Points	Considered Significant only if LE and SA subscores are much greater than or equal to 20 points.
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

6.0 CONCLUSIONS

It is the conclusion of this report that the Quarry Creek Project does not represent a significant impact to agricultural resources based on the total LESA Rating Score of 27 reported on *Table 8*. Per the California LESA Model scoring method, any score less than 40 points is considered "Not Significant".

REFERENCES

California Department of Conservation, California Agricultural Land Evaluation and Site Assessment Model-Instruction Manual, Sacramento, CA 1997.

Geocon Incorporated, EIR-Level Soil and Geologic Reconnaissance, Carlsbad, CA, Oct. 2011.

Helix Environmental, Vegetation Map for Quarry Creek, San Diego, CA Aug. 2011

Parcel Quest Database Services, Parcel Identification and Acreage for ZOI Parcels, Folsom, CA 2012.